EQUIPMENT LIST (CONT.)

This project involves the modification of an existing Traffic Control Signal with interconnect at the intersection of MD 450 (King George Street) and USNA Gate 8 (Bowyer Road) / Perry Circle in Anne Arundel County. The modification is due to geometric improvements. MD 450 (King George Street) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

I. GENERAL

- 1. The intersection shall continue to operate in a NEMA five-phase, fully-actuated mode, with the MD 450 (King George Street) approaches continuing to run concurrent. The Exclusive/Permissive left turn phase shall remain in operation for the westbound approach of MD 450 (King George Street). The existing pedestrian phase crossing the west leg of MD 450 shall be relocated to the east leg of the intersection. The pedestrian phases across Perry Circle shall remain on recall. The Bowyer Road / Perry Circle approaches shall also continue to run concurrently. Pre-emption for emergency vehicles (opticom) shall remain in use for the northbound approach of Bowyer Road.
- 2. The existing full-traffic-actuated, eight-phase controller with all necessary equipment housed in a NEMA size "5" pole-mounted cabinet shall be utilized at this intersection. A new bottom plate shall be installed onto the existing cabinet with (1) 3" LB and (1) 2" LB.

III. SPECIAL NOTES

- 1. The Contractor shall be responsible for terminating all signal cables. to the appropriate terminals and shall properly label each cable.
- 2. All controller cabinet wiring will be performed by the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7650 seventy-two hours in advance of intended work.
- 3. All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

EQUIPMENT LIST

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

SPEC. NUMBER	DESCRIPTION	QUAN	YTITY
814	12", one-way, three-section (R,Y,G) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.(Black Face)	3	EA
814	12", one-way, five-section (R,Y,YA,G,GA) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.(Black Face)	1	EA
814	Combination 8"-12", one-way, five-section (8"-R,Y,G) (12"-YA,GA) (left arrows) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.(Black Face)	1	EΑ
814	12", one-way, two-section (DW,W) symbolic pedestrian signal head with adjustable bracket for pole mouting and cutaway visors.(Black Face)	1	EA
814	12", one-way, two-section (DW,W) symbolic pedestrian signal head having proper post top adapter for pedestal mounting and cutaway visors.(Black Face)	1	EA
814	12", two-way, two-section (DW,W) symbolic pedestrian signal head with adjustable bracket for pole mouting and cutaway visors.(Black Face)	1	EA
205	Test pit excavation.	3	C.Y.
206	Remove concrete sidewalk	200	S.F.
610	4" concrete sidewalk.	220	S.F.
610	Remove curb and gutter	30	L.F.
610	Standard type A combination curb and gutter 12" gutter pan 8" depth.	30	L.F.
801	Furnish and install concrete for signal foundation.	7	C.Y.
813	Overhead mounted sheet aluminum sign consisting of:	15	S.F.*
	R1-2 "YIELD" sign, (36"x36"x36") pole mounted.	1	EA
	R10–12 "LEFT TURN YIELD ON GREEN (BALL)" sign. (36" x 42") mast arm mounted.	1	EA
556	5" white heat applied permanent preformed thermoplastic pavement marking	210	L.F.
556	5" yellow heat applied permanent preformed thermoplastic pavement marking	245	L.F.
556	10" white heat applied permanent preformed thermoplastic pavement marking	205	L.F.

EQUIPMENT	TO BE	FURNISHED	AND/OR	INSTALLED	BY	THE	CONTRACTOR	

EC. IMBER	DESCRIPTION	QUAN	TITY
556	12" white heat applied permanent preformed thermoplastic pavement marking	100	L.F.
556	24" white heat applied permanent preformed thermoplastic pavement marking	80	L.F.
556	Furnish and install heat applied permanent preformed thermoplastic pavement marking arrow. (right)	1	EA
	Remove existing pavement markings	125	L.F.
815	Saw cut for signal (loop detector).	270	L.F.
805	1" galvanized steel electrical conduit (detector wire sleeve)	20	L.F.
805	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit – trenched	40	L.F.
805	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit – bored.	220	L.F.
811	Furnish and install electrical handhole.	2	EA
810	Furnish and install loop wire encased in flexible tubing (No. 14 AWG).	935	L.F.
810	Furnish and install electrical cable – 2 conductor (aluminum shielded).	180	L.F.
810	Furnish and install 3-conductor electrical cable (No. 14 A.W.G.).	250	L.F.
810	Furnish and install 2-conductor electrical cable (No. 14 A.W.G.).	125	L.F.
810	Furnish and install 5-conductor electrical cable (No. 14 A.W.G.).	100	L.F.
810	Furnish and install 7-conductor electrical cable (No. 14 A.W.G.).	530	L.F.
310	Furnish and install ground rod $-\frac{3}{4}'' \times 10'$.	3	EA
810	Furnish and install No. 6 AWG stranded bare copper ground wire.	440	L.F.
	Furnish and install frame & cover and adjust handhole to grade.	2	EA
	Furnish and install 2" blind coupling	1	EA
817	Furnish and install pushbutton and pedestrian education sign R10-4(1). read "PUSHBUTTON TO CROSS KING GEORGE ST".)	2	EA
817	Furnish and install pushbutton and pedestrian education sign R10-4(1) (Note: Top portion blank)	1	EA
	Furnish and install 27' steel pole pole and 50' (cut to 44') mast arm	1	EA
	Furnish and install 10' breakaway pedestal pole with transformer base.	1	EA
	Remove and dispose of existing signal equipment.	LUM	P SUM
	Relocate opticom detector eye.	1	EA
	Furnish and install 16.5' steel pole with a special 15' T with 30' mast arm.		EA
	Furnish and install bottom plate for size "5 pole mounted cabinet with 1-3" and 1-2" drilled holes for conduit.	1	EA
	Furnish and install 2" LB	1	EA
	2" conduit.	5	L.F.
	Relocate sign panel	1	EA

All removed signal equipment shall become property of the contractor.

The contact persons for District #5 are as follows:

Ms. Kim Tran Assistant District Engineer – Traffic Phone: (410) 841-1003

Mr. Charles George Assistant District Engineer - Maintenance Phone: (410) 841-1002

Mr. John Mays Assistant District Engineer – Utility Phone: (410) 841-1005

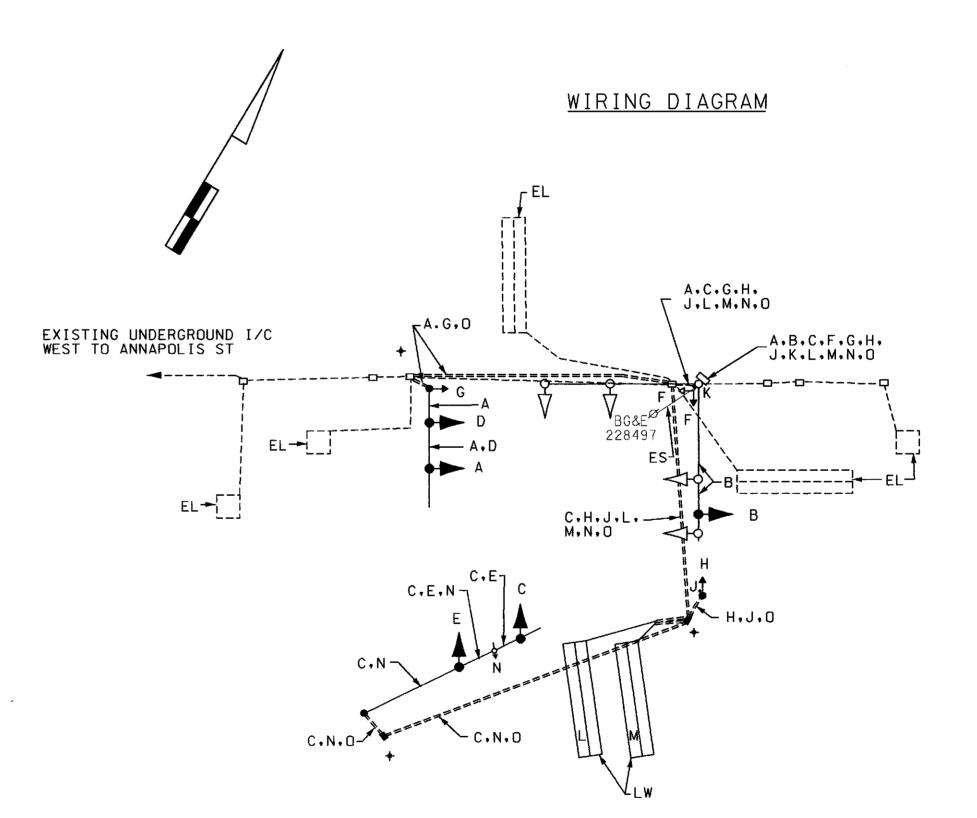
Mr. Richard L. Daff, Sr. Chief, Traffic Operations Division Phone: (410) 787-7630

The power company representative is:

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13)
	R	R Y G	(R) (Y) (Y) (G) (G)	R Y-Y 4G-G	R Y G	R Y G G	R Y -Y G G G	R Y G	R Y G	P	馬	S	S	
PHASE 2 & 5	R	R	◆ G-/G	G /G	G	R	R/−G→	R	R	WK	WK	DW	DW	•
2 & 5 CHANGE	R	R	4 Y-/G	← Y-/G	G	R	R/Y →	R	R	WK	WK	DW	DW	 - - ₋
PHASE 2 & 6	G	G	G	G	G	R	R	R	R	WK	WK	DW	DW	•- <u>-</u> -
PED CLEAR	G	G	G	G	G	R	R	R	R	FL/DW	FL/DW	DW	DW	٠
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	•
PHASE 4	R	R	R	R	R	G	G	G	G	DW	DW	FL/DW	FL/DW	_
4 CHANGE	R	R	R	Ŕ	R	Y	Y	Y	Y	DW	DW	DW	DW	⊣
PHASE 3 ALT	R	R	R	R	R	R	R	R	R	DW	DW	WK	wĸ	1
PHASE 8 (PRE-EMPTION)	R	R	R	R	R	G ← G−	G	R	R	DW	DW	DW	DW	1
8 CHANGE (PRE-EMPTION)	R	R	R	R	R	Y	Υ	R	R	DW	DW	DW	DW	←
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	4

NOTE: (1) PHASE 3 "PEDESTRIAN OVERLAP" OPERATES AS AN EXCLUSIVE PEDESTRIAN CROSSING PHASE DURING THE "WALK" CYCLE. UPON COMPLETION OF THE "WALK". CYCLE, THE SIGNAL GOES INTO PHASE 4 OPERATION.



WIRING KEY

\ 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) D 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

G) 3-CONDUCTOR ELECTRICAL H) CABLE (NO. 14 A.W.G)

J 2-CONDUCTOR ELECTRICAL K CABLE (NO. 14 A.W.G)

L 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED

N - 4-CONDUCTOR CANOGA CABLE (NO. 14 A.W.G) SHIELDED

O - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

EL-LOOP WIRE (NO. 14 A.W.G.) EXISTING

LW-LOOP WIRE (NO. 14 A.W.G.)

ES-EXISTING OVERHEAD SERVICE TO BE MAINTAINED BY BG&E

+ - GROUND ROD

SHA#: BW554M88

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION Office of Traffic & Safety TRAFFIC ENGINEERING DESIGN DIVISION

MD 450 AND U.S.N.A. GATE 8

ROB CICCHINI F.A.P. NO. DRAWN BY: R ZACHERL 7.34 S.H.A. NO. AA 928X-000-585 443 E CHECKED BY: SHEET NO. ANNE ARUNDEL SCALE: COUNTY: T.I.M.S. NO. 3/17/04 LOG MILE: 02045013.55 G 199 DATE:

STREET TRAFFIC STUDIES, LTD.

400 Crain Hwy.,N.W. Glen Burnie,MD 21061 Ph (410) 590-5500 Fax (410) 590-6637 4522GI.dgn